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ChemRisk Repos. No. 2041

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(Excerpts)

NOTEBOOK NO. A-37

Part II

Assigned to: _____

H. Blauer

Department: _____

Chemical Sep.

Location: _____

706-D

Date: _____

7-28-49

ChemRisk Document No. 2041

David R. Hamm 7/21/95
Technical Information Officer Date
ORNL Site

8/16/49

4-12 ① 1MB 2351 ST 35.1 slugs

② Phosphorous going through the column at cell V

③ Took care of Rimshaw's phosphorous on third level. Verbal
to 12-8.

④ Run status

A1 - Heels dissolving going til 2:30 AM - hold don't dilute ^{sample}

A9 - Run - 1st 33[#] H₂O settling til 12:25 AM

A11 - 8WMB settling 3:30 AM

A8 - 8WCW - 30[#] 25% H₂SO₄

A5 - MT

A6 - MT

Batch carlophosphate in M1.

⑤ Bailed out the evaporator.

8/17/49 ① Maintenance replaced air press. regulator on
12-8 press-vac panel board at cell V. It will probably
be in need adjusting for regular glassware work.

② H₂O wash going thru column at shift change.

③ Melted out two cans of sulfur.

④ Attended Rimshaw's apparatus.

⑤ Cell V floor was reading 800 m³/hr. scrubbed it
down to about 100 m³.

⑥ 8WMB - 117 cb ST.

⑦ Run Status: A1 - Heel

A5 - Batch CO₂ PO₄

A6 - 6WMB

A8 - Acid solution

A9 - 1st methanol settling till 10 AM

A11 - 8WW

2

8/17/49

8-4 ① Received metal waste from Semi-works into W9 Sacks via W12.

② Obtained a large sample of W6 supernatant for Mr. I. Whitney.

③ Analysis: 8W, 209 c's S.T.

④ Had Phoenix carriers painted.

⑤ Prepared Product carrier.

⑥ Held shift safety meeting.

⑦ Run status:

A1 - heels dissolved

A6 - M.T.

A5 - Neutralized GWMB

A9 - 3rd metathesis digesting until 4 p.m.

A8 - $\frac{2}{3}$ nds of 8WC

All - 8W, GWMB heels.

⑧ Work continued on the Evaporator.

8/19/49

① Analysis 8WC-2 ~~311~~ 5T

4-12 ② Handled Remshaw's stuff on third level verbal Benford to 12-5

③ Finished up iodine vaporation in C building

④ Phos going through 2nd level column at cell V 1st bottle about $\frac{2}{3}$ full.

⑤ Cleaned up rubbers etc at the evaporator

⑥ Run status

A1 heels dissolved - hold

A6 MT

A5 Neutralized GWMB - hold

A9 Last met wash settling til 1:52 AM

8/11
12
Scha

8/18
8-
Scha

A8 1st part of 8WCW
 A11 8WW 6WMB keels.

- 8/18/49 ① 205 Bldg purged their canal.
 12-8 ② Checked Presley's column and finished
 Schick Rimshaw's work.
- ③ Check P³² going thru column 2nd fuel cell.
 H₂O wash on the column and 1 bottle on top evaporator.
- ④ Brought up glasspanel board equipment &
 solutions.
- ⑤ Steamed off head heater.
- ⑥ Cleaned up EV sample bottles & stored P.C.
 antifoam at EV.
- ⑦ Cell B monitor on the blink, A9 liquid level goes
 at 0.2 inch, A9 sampler plugged tighter than a
 drum, 8WCW - 2260 c's ST. - should say more.
- ⑧ Got 1 doz cabbages from stores.
- ⑨ Room Status: A1 - heel
 A5 - Mut. Batch B
 A9 - Recovery Extraction
 A8 + A11 - MT
 B12 - Product Electrolysis till
 12:45 PM.

8/18/49

- 8-4 ① Instrument man checked shipsize instrument.
 Sachs It is O.K.
- ② Make a volumetric transfer of 1 liter H₂O through
 B23 funnel rack to B21 glassware. Everything O.K.

4

③ The following was done at Evaporator. The new thermowell was welded in and thermocouple installed. The C.T. to WS valve is still out of whack. Three millwrights used up their time to no avail. Hornbaker seems to think the solution rests in the installation of a spline shaft between the gear box and the valve. He hopes to get this in tomorrow. The blank flanges on the air-valve operated valve ^{line} were also put on. Toucey says that new parts for the automatic valve will be in late this afternoon and he hopes to have it installed by tomorrow.

④

Run Status:

A4 - heats dissolved

A8 - M.T.

A9 - Recovery extraction settling cold until 4:25 p.m.

A6 - M.T.

A11 - M.T.

A5 - neutralized GWMB

B6 - Product (check F.I.W.)

B3 - 1st 3rd & 3HPS

⑤ Made up 15_2CO_3 , sampled, no results as yet.

⑥ Painters finished work on Phoenix carriers.

⑦ We're running a regular Pb removal from B12. The first shot has ~~been~~ gone through and is in B3. B12 ready for second shot.

⑧ Riggers taking Phoenix carriers out of Bldg. at 3:35 p.m.

8/1
4-1
Prof

8/19
12
Sch

8/18/49

4-12

Penford

- ① Butted carbonate to 44.8%.
- ② 8WM-Recovery: - 186 ST continued on from here.
- ③ Checked phosphorous at cell V - about ready to take up a shift change.
- ④ Attended to Rimsbaw's column - one washing, the other regeneration: - Verbal to 12-8
- ⑤ Run status
 - A-1 heel
 - A-5 MT
 - A-6 6WM Recovery - sampled
 - A-8 1st part of 8WM-recovery
 - A-9. second wash settling til 12:00 MN
 - A-11 Heel. 8WM-recovery
 - B-12 MT
 - B-3 3WPB Hold!! sampled
 - B-6 1st part of run Hold!!
- ⑥ The A1-A9-A is leaking into A-9. Header's off.

8/19/49 ① 3WPB Analysis - 1196 c's S.T.

12-8 ② Finished up work on Rimsbaw's column

Schaich ③ Took up P^{32} product but found a yellowish tinge. Left product in bottle at cell V and put a 300ml H₂O wash and 500ml 1.1Ml (wt) thru column into R-1.

④ Cleaned up decontamination room and sample carriers.

⑤ Run Status: A1 - heel

A6 - 6WM Recovery.

A5 & A8 - MT

A9 - Decanting H₂SO₄ Recovery of A8 & B3

B3, B12 - MT.

B6 - 1st part of run.

6

8/19/49

8-4 ① We're Evaporating again! Welded in a spline Sachs shaft on the c.t. - WS valve extension but to no avail. The valve still jams at one point. The automatic valve was installed and is O.K. Started Run # 62 at 3 p.m.

② Run Status:

A9 - 1st recovery metathesis settling until 6:35 p.m.

A8 - 8 liters HNO₃ for metathesis waste.

A11 - 8WW recovery

A1 - heels dissolved

A5 - M.T.

A6 - 6WM recovery

B6 - 1st part of run. (hold)

8/19/49

4-12 ① Continued evaporating everything seems OK.

Revised ② Worked on mask and air equipment in make up room they are still contaminated, but must be down for use in taking product out. - Small hole hat ^{Lonely}.

③ Phos product still going through the column

④ Run status

A1 - heels

A5 MT

A6 6WM recovery

A8 Part of 8WC

A9 2nd metathesis settling til 11:50 PM

A11 8WM & 8WW recovery

B6 - 1st part of run (hold)

8/20
12
Sach

8/20
8-

Sach
Blau
Dun

8/20
8-
Sach
12-

8/20/49 ① Maintenance replaced NH_3 cylinder.

12-8 ② Small hole on air mask is okay
Schick ③ Continued evaporating at evaporator.

④ Run Status: A.K. feed

A5 - MT

A8 - 8WC

A9 - 1st methanol wash setting 7:55 AM

A11 - 8W M & 8W W

B6 - 1st part of run (Hold)

⑤ 1:1 HCl evaporating in lower evaporator at
Cell V.

⑥ 8WC - 276 c's S.T.

8/20/49

8-4 ① Transfer from A9 to B12 complete - at 11:25.
Sochs started electrolysis at 11:26 am at 15 amps.

Blauen ② Pulled P^{32} product and submitted samples
Dunlap to lab.

③ B12 Electrolyzing till 9:26 PM

8/20/49 ① A9 denied - 7 c's S.T.

8-12 ② 8WCW Rec. - 573 c's S.T.

Schick ③ Dropped run 62 and started #63.

12-8 ④ Run back in A9. New run book & instructions
at PB #2.

⑤ Maintenance blew out A9 inst. lines. Instruments
replaced oil.

⑥ Made up 45% K_2CO_3 . Not sampled.

⑦ Took 6 W M Recovery. 8-4 lab shift will run it.

8-4 + 4-12

1- sampled K_2CO_3 ANALYSIS 44.970

2- The new A-16 F&N BURNED OUT AT 5³⁰ PM, STARTING UP THE OLD ONE IT R&N FOR 1 1/2 HOURS AND BURNED OUT, FINISHED FIRST EVAPORATION WITH A-4-205 LINE.

3. A-9 AT SHIFT CHANGE, FUMING HNO_3 EVAPORATING, A-9 OIL MANOMETER SEEMS TO ZERO AT .2".

8/22/49

8-4 ① Continued work at the evaporator - is going OK.
 Sanford ② Maintenance working on leaky union at shift change.

③ Limons & Ferguson get blood counts

④ Run Status

A1 heels

A5 batch carborophate

A6 MT

~~A8 lot of their metathesis nothing degesting till 3:55~~

A11 8WW fluid recovery sampled

A9 lot metathesis degesting till 3:55 PM

A8 8 liters 70% HNO_3 10 liters H_2O

⑤ Instrument man worked on new sampling device at evaporator.

8/22/49 ① Remove empty C^{14} can from dissolve at U.V.

4-12 ② Continued evaporating at evaporator.

Schach ③ Instruments replaced about P15-1-12.

④ Finished work for Whitney.

⑤ Run Status - A1- heels

A5- CO_2 PD4

562116g
L
with

A6 - 6WW 3rd Recovery sampled.
A8 - 1st part of 8WC 3rd Recovery
A9 - 2nd metathesis settling till 12:50 AM
A11 - 8WC 3rd Recovery heel.

8/23/49

2 PD112-
6 .2"

12-5 ① Analysis: 6WW 3rd Recovery - 58.9 c's S.T.

Sachs ② Run Status:

A1 - heels

A5 - CO₂ P₀₄

A6 - 6WW 3rd Recovery sampled

A8 - 8WC 3rd Recovery sampled

A9 - 1st metathesis wash settling until 8:50 a.m.

A11 - 8WC 3rd Recovery heel.

③ Continued Operations at Heap.

④ Melted up two sulfur cans.

OK.

if

till 335

8/23/49 ① 8WCW 132 curies.

8-4 ② Instrument men replaced G.M. tube at evaporator.

pinford ③ Continued work on samples at evaporator if used

~~to~~ used on the next run

④ Both A16 fans were checked - they are definitely out

⑤ Run status

A8 - 8WCW sampled 132 C ST

A9 - A9 run 26 C ST

B-12 - electrolyzer at 25 amps till 10:17 PM

all others uncharged

⑥ Ramped run 63 started 64 at evaporator.

cc

V.

8/23/49 ① Made 1 liter transfer from B23 to B21 - B19.
4-12 1 liter filter in 5 min.

Schaich ② Steamed down head heater and got glassware equipment ready.

③ Removed C¹⁴ slugs from dissolve at cell V.

④ Steam engine was dry of oil again.

Note → ⑤ Heater No 2 leaks air at lower flange.

⑥ Added 4 liters of H₂O to B6, agitated, + sampled.
Lab Result - 37 c's A.T. Jetted to B10.

⑦ Added 4 liters of Pb removal to B8 via B17 and then dropped to B6 + agitated. B6 jetted to B3, B10

⑧ Evaporator going okay but monitor instrument and composite sampler are not working. The one sample received from composite sampler gave 11 ml.

⑨ Checked P³² going thru column at cell V.

⑩ Attended filtration + sulfur distillation outfit for Rinschaw, sealed to B2-S. Shut down sulfur apparatus when it started to act queerly. Finished filtration.

⑪ 105 Bldg seeping the canal.

⑫ Drained A4-205 for hrs + closed all off gas lines.

⑬ Run Status: B6 - Run Evaporating.

8/24/49

All other tanks the same.

12-8 ① Checked P³² at cell V. Water wash added at
Sachs shift change.

② Melted up two Sulfur cans.

③ Continued Run through, lot evaporation in B6. Quit frenzy, added two liters of H₂O and that's how she stands now.

8/23
8-
Bing

8/23
4-
Sch

- ④ Analysis: 6P (was this the 3rd one?) - 1564 C's S.T.
 ⑤ Continued T.F. evaporator operations.
 ⑥ Run Status: B3 - B12 Pb removal solution sampled
 B6 - Product in ~ 2200 ml H₂O
 All others unchanged.
 ⑦ Automatic sampler at Evap seems to be working O.K. now.

8/24/49

8-4

① Started getting W10 to W5 to go til ^{W6} reaches Benford 9 feet.

② Continued evaporating at the evaporator. Instrument men working on temperature micromax. It reads too high. Sampled catch tank hourly.

③ Run status: -

A cell as before -

B cell glassware à la Blawie

B6 - B6 more-sampled

B12 - MT.

B3 - 3WFN - not sampled (circulating)

B17 - HCl then-sampled

B10 - waste from B3.

8/24/49 ① Jack - Lab wants another analysis from you.

4-12 ② Checked P³² going thru column. Valve above R-1 Schairch will slip to closed position if you don't watch it

③ Cleaned up Bldg - but good. Sample carriers spraying in decontamination room. Set up 3rd level for product removal.

④ Shut off steam engine & NH₃

B6
 water

- ⑤ Made up batch of CO_3PO_4 . Don't know whether you will need it or not. Forgot there was one in A5.
- ⑥ 3WFN final analysis - 37c's A.T.
- ⑦ Ran W10 to W5 jet all shift.
- ⑧ Evaporator going okay. About 12 to 1 ratio at shift change.
- ⑨ Run Status: Product in cone under head heater.
- ⑩ Started neutralization of wastes in A cell. All cell A wastes & heels neutralized in A5.

5/25/49

- 12-8
- ① Ten hour skyshine - 1750 C's
 - Sachs ② Pulled Product out of Cell B and loaded on truck now located East of Bldg.
 - ③ The product appeared to be more up in the side of the cone than in the bottom. Seemed to have a slight ~~reddish~~ red-brown tinge. G.E. Phillips saw about the same thing.
 - ④ Both skyshine instruments read 17 R.
 - ⑤ Stored skyshine plates over hot labs.
 - ⑥ Cleaned up samplers, tongs etc. but they were still reading up to 15 m/hr so they're back in the bannel.
 - ⑦ Tunned off the W10 to W5 jet at 6:45 a.m. and blew the line out with steam.
 - ⑧ Dumped Run 64 at Evap and started 65. Had a slight foam over at a concentration factor of 14.4^{to 1} so dumped it then, rather than going to 15-1. The new run is up to temp. at shift change.
 - ⑨ Had a ^{product} canner and 3rd level smeared.

- ① Cleaned & resmeared two hot spots on drums.
 ② Let I glassware dirty. All III okay.

10/8/48

12-8
Saehs

- ① Cleaned up the last two bannels of lead and took them to the burial ground. Also put the hot ladders out in the garden.
 ② Made up 1st half of coating removal solution in A1.
 ③ The 1st level hoist is in bad shape. Gasbins worked on it two hours with no success. With any load, the "up" relay arcs like hell. The 8-4 electrician will follow up on this. Juice is cut off at Panel Board.
 ④ Emptied all Cell A and B tanks.
 ⑤ The resmeared on the drums were O.K.
 ⑥ Cleaned up decontamination room.

10-8-49 8-4 GCP

The maint repaired first floor Hoist and it is ok.

10-8-49 4-12

Picked up a P32 P3 from Rupp at 807 and submitted sample to the lab.

10/9/49

8-4

- ① Instruments unplugged A1 ring balance.
 ② Key to chemical storeroom is broken.
 ③ Loaded 64 steps. Last 10 steps being loaded at shift change.
 ④ Both Phoenix carriers are not cleaned.
 ⑤ Cone & plug sparging in CO_2 solution. No acid plane.

- ⑥ Instruments replaced chart PB-2 #7.
- ⑦ Continued evaporating on TF
- ⑧ Drained A4-205 all shift.

10/9/49

4-12

Sachs

A-205

- ① ~~Continued evaporating on TF~~
- ② Run Status:

- ① AI - 2nd coating removal cooking until 1:20 a.m.
- ② Continued Tank Farm evaporator operations
- ③ Dumped acid
- ④ Cleaned both Phoenix carriers. They have been smeared. Brought slug changer down to 1st level and washed it. It has not been smeared.

10/10/49

12-8

Bunford

- ① Returned slug carrier to 205.
- ② Take special sample of evaporator cond tank shortly after first feed following reaction peak in AI was sent to evaporator. Also cut rate back to 300 gallons
- ③ Run status
AI batch A dissolving coming up.

10/10/49

8-4

Schaich

- ① Cleaned & smeared bottom of both Phoenix carriers. #2 Phoenix had a leak in the weld on bottom.
- ② Reclaimed Au¹⁹⁶ returns.
- ③ Brought socks, face shields, and new bag for chem. store from storeroom.
- ④ Made up batch of 4% caustic.
- ⑤ Received 1.23 kg HNH into W7 from Semi-works.

- ⑥ Loaded 6 drums & 2 pots on Chicago truck.
- ⑦ Buckys in old A9-B26 line caused a high back-ground around G8 plug hole. Cut radiator with lead.
- ⑧ Millwrights worked on Phoenix #2. It leaks halfway around the weld.
- ⑨ Run Status: A1 - Batch B dissolving
A9 - Batch A settling but till 5:45 PM.
- ⑩ Dec. room soaking in citric acid.

10/10/49

4-12
Sachs

① Ran into a bit of trouble on the Batch A decant out A9. When mercury manometer showed ~ 24", the oil manometer was cut in. The mercury instrument then proceeded to zero and the oil manometer wouldn't build up. Cut off jet at this point and after dickening around, both instruments built up to 20". Settled Batch. Ran another hour (until 11:20 pm), and then took her down to 10".

② Run Status:

A9 - Batch A waiting for Batch B to come up through All.

A8 - SWMA circulating until 11:45 p.m. Note: ^{we got the SWMA} Ready to go to All.

A1 - Batch B dissolving. Sp. G. of 1.56 at 11:30 p.m.

③ Made up three batches of 4% caustic in M1.

④ Continued Tank Farm Evap. operations.

⑤ Checked I¹²¹ dissolving in C Blkg.

⑥ Checked P³² on tank Pan.

⑦ Made up glassware rinse carrier. Had product carrier smeared. It's O.K.

⑧ Cleaned up batteries and had H.P. smear them.

10/11/49 ① 8WMA 147 ST, 6WMA 52 ST, 1MB 2188 ST 33.2
12-8 ② Checked iodine in C building. slugs

- Bunford ③ Made up 4% caustic
④ Checked Ph₀₀ on T.F
⑤ Continued evaporating
⑥ Run status

A1 Heel Dissolving
A5 Batch carborophospat
A6 6WMA sampled
A9 Batch B settling hot til 10:45 AM
A11 MT
A8 MT

- ⑦ Made up product carrier
⑧ Diluted B at 4:30 S.G 1.62

10/11/49 ① Made a check of B21 + 20 glassware. B21 - 1 liter 10 min
8-4 B20 - 1 liter 3 min at 7 in. vac.

- Whaich ② continued evaporating on T.F. One foam over.
③ Cleaned cone + plug in dec. room and placed in glassware since carrier. Also prepared plug + cone for prod.
④ Covered hot spots around cubicle with Pb shielding
⑤ Cleaned B20 glassware
⑥ Received 1.11 kg ANH solution into W7 from amie-works
⑦ Cleaned up hot spots on J-1 blister.
⑧ Millwrights + welder worked on Phoenix #2 all shift with no success. Welding a new plate over old one to stop leak.
⑨ Run Status: A1 - Heel dissolving
A9 - Batch B settling till 3:45 PM.
A8, A11, A5, A6 - MT

10/11
4-1
Sach

10/11
12-
Bunf

- 10/11/49 ① Analysis: 8 WMB, 289 c's Analysis time.
- 4-12 ② Checked P^{32} extraction on Tank Farm. The
Sachs jacket steam is being regulated by the Pop off
Valve. The reducer is on the blank. E. King says just
to let her go as she is.
- ③ Brought in the jet Anigr 48. It's boiling in
 HNO_3 solution in decontamination room. Blauer wants
it cleaned up pronto.
- ④ Continued Tank Farm evaporator operations. One foam
over.
- ⑤ Run Status:
- A1 - Heel dissolving cooled and sampled. Hold.
- A11 - 6 WMB Heel
- A8 - 8 WW, sampled, ready to go to A11
- A9 - 3335 ml 45% ~~all~~ carbonate added. See Run book.
- A6 - M.T.
- A5 - Neutralized 6 WMB waste agitating until 12:00 p.m.
- ⑥ Analysis: A1 Heels, 346 A.T.
- ⑦ Work on Phoenix #2 was completed.

- 10/12/49 ① J-8 plug got awfully hot at about 1:00 PM. There
is a beam coming through the wall not stuff in the
12-8 valves - but through the shield. Since as I recall 8:11
Bunford ② plug is right in front of A13, it seems like a
good idea to stay away from it during the cell
B transfer.
- ② Continued evaporating at T.F.
- ③ Checked Phosphorous periodically
- ④ Run status
A1 Heels

13.2
slugs

10 min

prod.
taking

works

it
test.

A5 MT
 A6 MT
 A8 1st part 8WC
 A9 2nd metalheris settling til 10:00 AM
 A11 8WMB and 8WW

8WW 17 C ST.

- 10/12/49
 8-4
 Schaich
- ① Piggers loaded Phoenix carriers & sent them on their way
 - ② Emptied all U/B tanks and drained A4-205.
 - ③ Dropped EV charge and started new run.
 - ④ Millwright made a new roller for hotting paper rack.
 - ⑤ Recamped A1 bed dissolving.
 - ⑥ Shift took in fire prohibition.
 - ⑦ Pipefitters put W8 - to main line jkt back in operation
 - ⑧ Cleaned hot spots in make-up room & dec. room.
 - ⑨ Receiving fan seals at shift change into W1 & W2.
 - ⑩ Run Status: A1 - bed dissolving deleted
 A8 - 8WC sampled
 A9 - settling 1st cake wash till 5:50
 A11 - 8WMB, 8WW
 - ⑪ Instruments repaired h.k. at EV and B6 manometer

10/12/49

- 4-12
 Sachs
- ① Analysis: 8WC 271 S.T.
 - ② Finished up I¹³¹ evaporation in Room 10, 706 C 131dq.
 - ③ Steamed off B19 heater for a half an hour. Better have maintenance check the steam pressure at P.B. #6. We got only about 3 lbs on the gauge.
 - ④ Continued Evaporating. Cut back steam

to 20 lbs. 7 p.m. C.T. sample ran about 18,000 counts.

③ Run Status:

A1 - Heels dissolved - hold

A5 - M.T.

A6 - M.T.

A8 - 8WCU

A11 - 8WCU, 8WMB heel

A9 - A9 rinse

B12 - Product electrolysing until 12:20 p.m. at 15 amps.

④ Cleaned up Make up room. H.P. found some hot spots.

⑤ ~~Pipette~~ B11 Blister read 18.12/hr when product was drawn up into A13 pipette.

⑥ Analysis: 8WCU 401 S.T.

10/13/49 (1) Received waste into W5 from 205.

(2) Set out mitts, gloves, etc for glassware

(3) Put in scopes.

(4) Run status.

A cell as before

B cell. B-12 MT

B6 - 7270 ml product: - 1st WP sample circulating til ~~8:10~~ 8:10 AM

(5) Evaporator seems OK. Took a couple of extra CT samples and they are low enough.

(6) A9 rinse 29 curies

10/13/49 ① Riggers pulled chimney out of W8.

8-4 ② Continued evaporating. One pan over. Cut rate switch back to 250 gal/hr.

- ③ Evacuated Hdg about 9 AM due to high air count. Just starting B6 degeneration.
- ④ Received a truck load of waste from R25 in W7. Two load carriers to burial ground.
- ⑤ Riggers brought in HCl-Ether carrier. Started decontamination.
- ⑥ Started jet from W6 to W8. To go till jet blows.
- ⑦ Product truck parked E. of Hdg.
- ⑧ Instruments put a new jet on cond. manifold manometer at EV.
- ⑨ Run Status: All A tanks same as last shift.
 - B3 - 3WFN not sampled.
 - B6 - B6 mine
 - B20 - 2nd HCl-Ether filtering

- 10/13/49 ① Analysis: HCl-Ether, 399 S.T., 3WFN 73 S.T.
- 4-12 ② Cleaned and prepared an HCl-ether carrier.
- Sachs ③ Pulled HCl-ether waste from B17. It is in the carrier in the decontamination room. Washed out B17 with three 200 ml H₂O washes, sucked to B21 and then sucked to B24.
- ④ Started Product Evaporation at 9:15 p.m.
- ⑤ The W6-W8 jet is still running.
- ⑥ Run Status:
B3. Product evaporating to dryness.

10/14/49 ① Had a hard time getting the cone in the 12-8 carrier but finally accomplished it at 4:15 after a couple hours struggle. Took skyshine at 4:30 AM

10/13/49
8
Bla

② The product was a brindle color, brown with considerable black. It seemed to be up on the sides of the cone.

③ Skyline 42R 4275 C. Smared carrier and loaded in truck All ready to go P.F.D.

④ Took glassware since - stored in decontamination room

⑤ Replaced chimney blocks, stored skyline plate, and chains and put air hoses and masks in makeup room. They are hot. Stored source over N. Hot lab.

⑥ Continued work at evaporator.

10/16/49 ① Rala on its way at 8:45 AM.

8-4 ② Stored HCl-Ethyl + Glassware since in Blauer garden East of 706-D

③ Scrubbed 3rd level

④ Received metal waste into W9 via W12 from semi-work

⑤ Maintenance put float back into W8 and pulled + put four dip pipes of W8 fit to main transfer line.

⑥ Worked on decontamination of air line masks, hoses, sample carriers, cone adapters, Evap. hot spots etc.

⑦ Neutralized A1 keels + combined with 2 forty gallon washes of Cell A tanks + 2 washes of Cell B tanks. All sent to W9. Samplers were circulated with wash water in tanks.

⑧ W6 is still jitting to W8

⑨ The third H₂O wash of cell A tanks is in A11 ready to

As where it is to be combined with the 3rd wash of Cell B which has not yet been started. These washes are to go to W-12.

- ⑩ No B cell samplers have been circulated. No sample blisters at all have been decontaminated.
- ⑪ One mask (smear ^{still} #8) is warm. Please clean it + the 2 lengths of hose that are warm.

10/14/49

- 4-12 ① Completed Cell A and B rinses. Jetted same to W12
Sacks ② Completed glassware rinses. Used all lines.
B20 glassware rinses started in B20R, B21 rinses started in B20T. All glassware rinses sent to A5 to W12.
- ③ Attended to Rimshaw's Filtration on 3rd level.
- ④ Housecleaned the Bldg. after making weekly inspection.
- ⑤ Cleaned, bagged and stored all air line masks and air lines.
- ⑥ Removed, cleaned and stored all scopes.
- ⑦ Pile purged hell out of their canal. Checked manhole and D.B. flow. They were finished at 10 p.m. Is the D.B. flow gauge working correctly?
- ⑧ Completed work on P²² at 204 Bldg. Sampled product and stored in vault.
- ⑨ Continued Tente Farm Evaporator operations.
- ⑩ Cleaned up sample blisters.

10-15-49

12-8

les
10-15-49 8-4

- 1- Checked Rimshaw filtration on 3rd level.
- 2- Continued tank farm evaporation.
- 3- W-6 to W-8 Jet still on at Shift Change.

10-15-49 1- W-6 TO W-8 Jet STOPPED Jetting at
4-12 6:30 P.M., Steamed Line For 30 MIN. AND CLOSED
R.L.N. ALL VALVES. W-6 Level 6'4"

2. Evaporated RIMSHAW'S STUFF DOWN TO 200ML
END OF STEP #2 ON INSTRUCTION'S SHEET.

3. CONTINUED WITH EVAPORATION AT TANK FARM.
FORM OVER AT 5:15 ANOTHER AT 10:45.

10-16-49 DUMP Run #136 at Crap and Sorted #137.
12-8 at 200 AM -
SEP

10-16-49 8-4

Continued tank farm evaporation. No form
over on this shift.

10-16-49

4-12 1- C.T. 4 HII SAMPLES RUNNING ~ 28,000 C/MIN
R.L.N. SHUT DOWN EVAP AT 9:45 P.M. ADDED 300 GMS. OF
ANTI-FOAM, Cut Back Coil Steam PSI. FROM 207
TO 15 # CHANGED COMPOSITE BOTTLE AND Labeled
#2. COMP.

2. WORKED ON B-3 + B-6 Blisten's Bot. DID
VERY little Good.

11-19-49 - 4-12 H.B.

1. H.P. found a high background out in road around W1 & 2 and also in front of evaporator. After further checking they found the 2" jet and line coming out of W2 reading from 4 to 10 R. The area around W1 & W2 is now roped off, due to a high background in that area. A sample from W2 was found to be reading 3 R.

11/20/49 ① High background at W2 was probably due to steam that was turned onto makeup ~~to~~ tank and leaked thru jet valve.

Schaich 4-12 have maintenance check valve and also repair traps on the makeup tank.

② W1 & W2 samples will run high from now on so it might be a good idea to carry a water pic when sampling.

③ EV sump was filling at approx. 20 gals/hour so coil E was turned off until repairs can be made. This seems to do the trick.

④ Made up 4% caustic.

⑤ Loaded 74 slugs.

⑥ Permit carriers & slug charger are not clean.

⑦ Turned on steam engine

11/20/49

4-12

Sachs

① Pipe-fitters never showed up for the job at W2.

② Run Status: A1 - 2nd coating removal cooling off until 1:35 a.m.

- ③ Continued G.F. Evaporator operations.
- ④ Had the A16 NH_3 cylinder tied in.
- ⑤ Cleaned and smeared slug changers and the two Phoenix carriers. All smeans were o.k.

11/21/49 ① Continued evaporating - cut to 200 gals/hour when
12-8 dissolving started. Pumping run at 8:00 AM
Bunford ② Run status
A-1 Batch A coming up to Sp. G.

11/21/49 ① Shut down evaporator at 8 A.M. to replace union
on coil E line. Everything o.k. and back in operation
Schach ② Brought ^{MT} A1 (NH_3) barrels from 205 Bldg to new
decontamination Bldg.
③ Made up 4% caustic.
④ Towed Phoenix carriers on E. Platform.
⑤ A16 draining at shift change.
⑥ Brought in sample from W3 for Rimshaw.
⑦ Run Status: A1 - Batch B dissolving
A9 - Batch A settling ^{not} till 5 PM.

11/21/49

4-12 ① Run Status: A1 - Batch B dissolving
Sachs A11 - 8WMA settling until 3:15 am.
A9 - 10" 8WMA heel.

- ② Made up 2 batches of 490 NaOH in M1 and jetted to M10. Should be enough for Batch B dissolving.
- ③ Made up glassware rinse and product carriers.
- ④ Continued Evaporating.
- ⑤ Checked FI¹³¹ dissolving in "C" Bldg. The

NH_3 seems to be running low.

(60) Attended to P^{32} column at 204 Bldg. There's about 75 ml of product left to drip through column at shift change. This is to be followed by a 100 ml H_2O rinse. Passed the dope on to Binford.

(70) Pulled Product from South Extractor at P^{32} set-up. Put in new tube. Steam on at 11:15 p.m. Sample is still out at shack with volumn on tag. Turned cooling water on N. Extractor at 11:30 p.m.

(80) Continued Evaporator operations.

11/22/49 (1) Analyses: - 1MA-3021 ST 34.7 slugs 104 c/slug
12-8 (I don't believe it) 1MB 2312 ST 30.9 slugs 87 c/slug
Binford 6WMA 40.3 c ST.

(2) Started addition of hatch B at 2:00 AM after only 11 hours in order not to delay in A9. SG was 1.70. Bin afraid this may have left some U behind as witness analysis above.

(3) Checked iodine dissolving in C building.

(4) Finished column work at 204 building.

(5) Continued evaporating at T.F. No foam overs.

(6) Removed P 272 and started again at 12:45 AM.

(7) Run Status

A1 - Heel dissolving

A9 - settling hot oil 8:30 AM

A6 - MT

A5 - 6WMA neutralized

A8 - MT

11/22/49 ① Sent 345 gal metal waste to W59 from A6.

8-4 ② Electrician started dismantling B3 probe.

Schwich ③ Slug charger dipped off skid and made slight indentation on E. Platform. Kysawa roped off until carpenter repair. Carpenter started repair work.

④ Finished making up product & glassware carriers.

⑤ Cleaned up hot tools.

⑥ Washed & drained stack.

⑦ Started concentrating EV charge at 2:15 PM. Still going at shift change.

⑧ Run Status: A1 - heel dissolving

A6, A8, A5 - MT

A9 - 1st water wash settling 4:53 PM

A11 - Batch B settling

11/22/49

4-12 ① Run Status:

Sachs A1 - Heels dissolved sampled (hold).

A9 - 1st Metathesis settling until 2:05 A.M.

A11 - 8WW and 6WMB heel

A5 - M.T.

A6 - 6WMB

A8 - 6 liters HNO_3 , 15 liters H_2O to receive K_2CO_3

② Maintenance replaced fanway trap and 1" gate valve at W2 to Evp. Xmas Tree jet.

③ Continued Evaporating.

④ Finished up evaporation at 204 Bldg.

11/23/49

12-8

Bunford ① Thawed out water line at Phos set up and removed two products. Started reextractions. Steam on at 5:50 AM

② Continued evaporating - no foam over

③ Analyses: - 6WMB 48.5 ST 8WW 72.2 ST

④ Run status:

A1 kels

A9 - second nitathesis decanting at 7:30 AM

A5 - MT

A6 - 6WMB

A8 - Receiving second third of 8WC

11/23/49 ① Received product truck & parked east of Bldg.

8-4 ② Sent Phoenix carriers on their way.

Schach ③ Bought sky shine source up to 3rd level.

④ Received acoustic into W3 from 205 Bldg

⑤ Tore out Sr. setup and cleaned up cabinet for Pierce. Gasware is repairing sec. room.

⑥ Carpenters continued work on E. Platform

⑦ Instruments worked on H₂O manometer.

⑧ NH₃ is getting low. The new cylinder is sitting beside H₂SO₄ canyos on E. Platform.

⑨ Continued evaporating. One foam over.

⑩ Run Status: A1 - kel

A8 - 8WC + 1/2 of 8WCW

A9 - 1st H₂O wash sitting

A11 - 8WCW + Batch B kel.

- 11/23/49 ① The 1st shot of product drawn into A13 pipette
4-12 read 8R through B11 blister.
Sachs ② Worked on Sn glassware. Sparging in HCl
solution in decontamination room.
③ Continued Evaporating.
④ Received metal waste from Semi-works into
W9 via W12.
⑤ Run Status: B12 - Product electroplating until 5:07 AM.
⑥ Completed I¹³¹ product Evap. in Room 10.
⑦ Finished up Rimshaw's ~~Evap~~ Filtration on 3rd level.
⑧ Changed A16 ammonium cylinder.
⑨ Analysis: 8WCW - 513 S.T. - A9 Rinse, 21 S.T.

- 11/24/49 ① Continued evaporating at the evaporator. All is well.
② Run status: -
A cell as before
B6 - product - just starting HNO₃ evaporation.
No high air counts!
③ Put in scopes and collected equipment for gloves
④ 6P read 1075R at 1 foot.

- 11/24/49 ① Carpenters continued work on E. Platform.
8-4 ② Started concentrating Run #155 at EV.
Withhold ③ Carrier came out of cell hot. Stripped off paper
blower and tried to keep dust from scattering. Carrier
which will have to be removed.
④ Sampled B6 rinse, 3WFN, + HCl-Ether. Started
lead removal for 3W PB.
⑤ Run Status A cell same as before A1 - HCl
B10 - 3WFN A8, A11, A5, A6 - MT

A9 - Wastes

B6 - B6 Rinse Sampled.

B17 - HCl - Ether "

B1, B3, B10 - MT - 1st part of 3W7B.

B12 - 1st part of 3W7B.

- ② Made & Sampled 45% K_2CO_3 . Lab result - 45.3%
- ③ 4-12 send a man to relieve Jones at 204 Bldg.
- ④ HCl Ether - 248 c's at ST.; B6 Rinse 34 c's.
- ⑤ h.s.t. reached at 1325 or 1:25 P.M.
- ⑥ Product vaporating at shift change.

11/24/49

4-12

Sachs

- ① Completed B12 Pb removal, sampled and jettied to A9 via B10. Started waste recovery extraction in A9.
- ② Analysis: 3W7B - 31 S.T.
- ③ Run Status: Product ready to be removed. A9 waste extraction setting cold until 3:25 A.M.
- ④ Worked on Sn glassware. Clean stuff is on paper in front of decontamination room. Hot stuff in S.S. bucket in cubic.
- ⑤ The skylight instrument read $39\frac{1}{2}$ R.
- ⑥ Checked columns in 204 Bldg and ~~15~~ Coll V. Passed on prod to Binford.
- ⑦ Continued Evaporation.
- ⑧ Product was of a light brown color and seem to be well down in the cone although there was some up on the sides of the cone.

11/25/49

12-8

Binford

- ① Skylight calculated 4240 c
- ② Removed product - had HP smear - and loaded on truck

1-1-50 8-H

Continued Calum. on 3rd level
 added first $\frac{1}{2}$ g coating removal
 to A. 1 and unloaded Slug carriers
 Charging machine is at 105 loaded with
 Slugs ready to Bring down.

1-1-50

RUN 38

4-12 ① loaded 74 slugs without incident.

Sachs ② Run Status: A1 - 1st half of 2nd coating
 Osen removal solution ~~is~~ cooling down.③ Took slug changer and Phoenix carriers down to
 the new decontamination area. They have not
 been washed.④ looked everywhere for source of unusual
 flow into W12, and had no luck. We're
 getting 600 gals every four hours from some
 place.

⑤ checked Rinschaw's column on 3rd level.

⑥ The line from M1 \rightarrow M10 is plugged. 12-8
 maintenance crew will get it.⑦ The NaOH in M1 is ready to be diluted up to
 80" in M10. There is already 40" of water in M10.

⑧ Shift electrician put in a few lights.

⑨ Continued evaporating.

1/2/50 ① Dumped run 237 - 238 ready to go at 200 gph

12-8 ② Continued Rinschaw's column

③ Bound aspirator on full blast in room 12 and
 cut it back some. It seemed to help even
 though it's supposed to be a cold sink.

(4) Run status

A1 first dissolving - just started.



(5) Unplugged 4% caustic line.

(6) Scrubbed up Phoenix carriers and charging machine. Carriers have not been smeared (they are at 903)

1/2/50 (1) Maintenance oiled steam engine. Will need new 8-4 belts shortly.

Schmidt (2) Made up caustic in M1 to make 80" + 7% in M10.

(3) Continued Rimshaw's column.

(4) Continued evaporating.

(5) Cut off aspirator H_2O in room 12 "c" Bldg at the header.

(6) Carriers have been smeared. Check HP for smears.

(7) Run Status:

A1 - dissolving Batch A almost there.

(8) 4-12 have HP smear bottoms of Phoenix carriers.

(9) Small truck is hot. Jones working on it at shift change.

1/2/50

4-12

Sachs

(17) Finished 5 can melting at P²² T.F. equipment and started extraction of tube in E2. Just let her go all night.

(18) Made up 80" of 4% NaOH in M10.

(19) Had H.P. smear bottoms of Phoenix carriers.

(20) Gave A4 system good cleaning before starting Batch B dissolving.

142

- ⑤ Took care of column and evaporation at 204 Bldg. All complete.
- ⑥ Watched Rimshaw's column on 3rd level.
- ⑦ Took hourly readings on I^{131} dissolving in C Bldg.
- ⑧ Analysis. IMA 3187 C's S.T, 37 slugs, 102 c/s/slug.
- ⑨ Run Status:
 - A1 - Batch B dissolving
 - A9 - Batch A extraction settling cold until 1:20 AM.
- ⑩ Note Ryan, H.B. - On the SWMA, discard 1st sample and give lab the second (we've been doing it late).
- ⑪ The Phoenix canners are clean. Highest smear was 61 counts.

- 1/3/50
- ① Continued evaporating - all is well.
- Winfred
- ② Checked FI dissolving in C building
- 12-8
- ③ Took care of Rimshaw's column on third level.
 - ④ Run status
 - A1 - Batch B - diluted and sampled ready to go
 - A9 - Batch A also waiting for batch B
 - A11 - Decanting to A6 (SWMA) as of 7:36 AM
 - A6 - Receiving SWMA from A11
 - A8 - MT
 - A5 - batch curyphos plate
 - ⑤ Diluted batch B at 6:30 AM S.G. 1.68
 - ⑥ SWMA - 223 C ST

- 1/3/50
- ① Washed & drained stack and drained A4-205 system.
- 8-4
- Schaich
- ② Instruments replaced monitor tube at EV.
 - ③ Finished assembling product & glassware carriers.

① Phenix carriers loaded & sent on their way.

② Dumped HNO_3 , made up batch CO_2 & D_4 , and cleaned up makeup room.

③ Cleaned out evaporator gallery & continued evaporating.

④ Maintenance replaced #16 NH_3 cylinder.

⑤ Run Status: A1 - had dissolving

A9 - Batch B settling cold til 6:05 PM.

⑥ Maintenance repaired belt and oil cap on steam engine. Run still off at shift change. Work should be finished.

⑦ Collected and repaired air line masks & lines.

1/3/50

4-12

Sachs

① Instrument man replaced chart on P.B. # 2
Micromax.

② Started up the steam engine.

③ I forgot to turn air on E2 extractor. Did turn it on E1 however and took the E1 product to 204 Bldg for evaporation. Started reextraction on both tubes.

④ Finished Pressley's column on 3rd level.

⑤ Continued Evaporating

⑥ M5 pump leaking around packing.

⑦ Governor oil on steam engine getting low.

⑧ Passed word on 204 Evaporation to 12-8 shift.

⑨ Run Status:

A1 - Heels dissolving cooling - not sampled.

A9 - 4 hr Extraction wash settling until 12:00 pm.

A11 - 8 WMB settling until 12:20 am.

A8 - Four Filters of 8 WW.

- 1-4-50 ① Continued evaporating - no foam overs.
 12-8 ② Checked Pinalaw's column
 ③ Finished up evaporation at 204 building.

④ Analyses

6WMA - 44 ST

8WMB - 232 ST

1MB - 2371 ST 31 slugs 87.5 c/slug

Heel desolving 401 ST

8WW - 24 ST

6WMB - 57 ST

⑤ Run status

A1 heels sampled

A6 neutralized metal waste

A8 ~~sampled~~ 1/3 8WCA9 second methanesis adding 52 # H₂O

A11 8WW

A5 MT

1/4/50 ① Continued evaporating. Boiling down at shift change.

8-4 ② Millwrights repacked MB pumps but still working
 Schick on leak at shift change.

③ Brought sky shine source to 3rd level & instruments
 checked by Tucker. Also B6 instruments filled.

④ Run Status: A6 - neutralized 6WMB
 A11 - 8WW & 8WMB heels.
 A8 - 1 + 2 8WC
 A9 - 3rd methanesis setting til 5:05
 A1 - heel desolving sampled

- 1/4/50
- ① Watched Rimshaw's column on 3rd level.
 - 4-12 ② Pulled P₂ from E2. It's in the graduated Sachs flask at Bagle-Bagle.
 - ③ Finished column work at Cell V. 2 liters are in column running to drain.
 - ④ Continued Evaporator operations.
 - ⑤ Run Status:
Product in B12 electrolyzing until 2:10 A.M. at 15 Amps
 - ⑥ Completed I¹³¹ evaporation in Room 10

- 1/5/50
- ① 8WCW 93.6 ST
 - 12-8 ② B20 filters in 9 minutes per liter for 5" vacuum.
 - Benford ③ Finished up column at cell V
 - ④ Took care of Rimshaw's column
 - ⑤ Continued evaporating
 - ⑥ Put in scopes and set up stuff of glassware
P.B. - couldn't find any rubber gloves
 - ⑦ Run status
Electrolyzing till 9:10 AM at 28 AMPS.

- 1/5/50
- ① 8WCW was 93.6 c/s ST. Lab was off by a factor of 10.
 - 8-4 ② Steamed out head heater for 1 hr.
 - Schaid ③ added 1 liter H₂O then B23 and filtered thru B20 in 5 minutes.
 - ④ Continued evaporating.
 - ⑤ Pulled Hokes + brought around Sky shine plate.
 - ⑥ Run Status: All same as before
B3 - 20 L. H₂O
B6 - Rinse Sampled
B20 - Product

- ② Cell B monitor jacked up by factor of 10. (Read. x125d)
 ③ Maintenance started work on W12 to W9 jet.

1/5/50

4-12 ① L.S.T. was at 4:15 P.M.

Sachs ② Moved SWFN and Bp rinse to A9.

③ Continued Evaporating on Tank Farm.

④ Cut off Rinsman's Ru¹⁰⁶ distillation as instructed.

⑤ Run Status: B19 - Product evaporating until 1:50 A.M.

⑥ Franke - Cut A16 scrubber off when Product is dry and 3 WPB is sampled.

⑦ Took Special samples of F.F.T and Catch Tank.

F.F.T. - 3.53×10^5 c/m/ml, C.T. 40 c/m/ml.

⑧ Analysis:

3WFN - 151 A.T.

B6 Rinse - 33.9 A.T.

HCl - Ethanol - 360 S.T.

⑨ Added 125 ml H₂O to column at 204 Bldg. It will have to be pinched off in order to keep it from running dry. Product still going through column at Cell V.

⑩ The W12 - W9 jet leak will be repaired in the morning.

1/6/50 ① Continued evaporating at T.F.

12-8 ② Pinched up column at 204.

Meyers ③ Column at cell V - Product going through

④ Took skyline at 5:00 AM Probe read 43.5 R
HP-50 R. Calculated to 4670 curies!!

- 259
- ⑤ Product was brownish black (brindle) and mostly in the bottom of the cone except for one spot on the shoulder.
 - ⑥ Took 250 ml glassware rinse, and stored outside the building on E platform.
 - ⑦ Loaded product on truck after H.P. smeared carrier—all ready to go.
 - ⑧ 3WPB is still in ~~to~~ B3.
 - ⑨ There is only one hot spot on 3rd level. It is on the corner of the A cell roof block marked in red.
 - ⑩ The steam engine has not been turned off.

- 1/6/50
- ① Shut down steam engine & turned off NH₃.
 - 8-4 ② Sent product truck on its way at 9:00 AM.
 - Schaich ③ Cleaned and stored scopes.
 - ④ Stored sky shine source and plate.
 - ⑤ Cleaned & smeared air line hose & masks.
 - ⑥ Cleaned hot spot on 3rd level.
 - ⑦ Stored glassware rinse carrier in garden.
 - ⑧ Small truck to 903 Bldg for decontamination.
 - ⑨ Took special samples of EFT & C.T. (EFT - 6.53×10^5 / min)
 - ⑩ Neutralized 3WPB & HCl-ether and combined ^{in AS.} with ~~water~~. Sent all to W.G.
 - ⑪ Low range on all B monitor changed to 125.
 - ⑫ Washed out all blisters.
 - ⑬ 1st, 2nd + 3rd level - No hot smears.
 - ⑭ Cleaned & stored all sampling equipment.
 - ⑮ Sent water rinse thru all glassware lines, B17,
- 25

Reported it to Lab. Shift Supervisor.
He cut off vacuum pump but left
water still running.

1-13-50 12-8

1-15-50 8-4

1. The TWO PHOENIX CARRIERS ARE STILL ON THE TRUCK IN 903 Bldg.
2. ONE LOAD OF SLUGS READY FOR UNLOADING AT SHIFT CHANGE.
3. DRAINED A-4 LINE FOR ONE HOUR, VAC. OK

1/15/50 ① Turned on steam engine

4-12 ② Drained A4 line and made up new Schalk caustic for 1st coating removal.

③ made up batch 4% caustic.

④ Washed off charging machine and returned to 205.

⑤ Valves on lines M1-A5 & M1-M11 are shut. Both A5 & M11 gain solution when M1-M10 jet is going.

⑥ Pulled 8WM Recovery and setting recovery bath in A11 at 10:30 PM.

⑦ Phoenix carriers have not been touched.

⑧ First charging machine load had 32 slugs. As a result three slugs hung-up in chute. Bounded them thru chute. Next two loads went okay. Last load of ten sounded like none of them hit tank. No radiation from chute so assumed they all went in. Must have piled up in tank and thus deaden the noise.

- ② Olson called in sick.
- ③ just discovered M10 L.L. is plugged. There is enough caustic in M10 to make 80" when diluted. Couldn't find instrument man to get it unplugged.
- ④ Run Status: A1 - 1st Coating Removal Washes
A11 - 8WM Recovery Settling
A9 - Recovery Batch
- ⑤ S.B. seems to be rising. Didn't get a chance to check C.T. this shift.

1/16/50

- 12-8 ① Instrument man repaired M10 h.h. manometer. Sacks and batch of caustic was diluted up to 80"
- ② Washed Phoenix carriers. They are OK. to go.
- ③ Run Status:
A1 - Washes of 2nd coating removal
A9 - Recovery batch
A11 - 8WM Recovery settling
- ④ Continued Evaporating.

1/16/50

8-4
Bunford

- ① Replaced broken driers trap over cubicle I
- ② Finished installing the antifoam pump at the evaporator - and continued evaporating.
- ③ Took special C.T. Sample 20 c/m/ml at 11:00 AM
- ④ Run status
A1 first anaerobic coming up
A5 - MT
A6 - MT

1/16/50 ① Instruments replaced battery 7B1-2

4-12 ② Made up batch 4% anisole.

Schaich ③ Finished melting sulfur and started extraction at 6 PM.

④ Replaced Tygon line at S.B. comp. sampler.

⑤ Pulled C¹⁴ slugs from dissolver at cell V

⑥ Continued evaporating.

⑦ Checked Pressley's column on 1st level. Verbal to 12-8.

⑧ Run Status: A1 - Heel

A9 - Batch A extraction just started.

⑨ Maintenance repaired steam leaks at W1+2 make-up tank but wouldn't touch other TF leaks.

⑩ IMA volume was approximately 2 gals lower than usual.

⑪ Draining A4-205 over shift change.

1/17/50

12-8 ① Analysis: IMA, 1861 S.T., 21.57 Slugs, 97.5 c's/slug.

Sachs ② Proceeded with Pressley's column as per instructions.

③ Pulled P³² from E1 and E2 on tank fans. 3 extractions under way at 4 a.m.

④ Continued Evaporating.

⑤ Run Status:

A1 - Batch B dissolving

A9 - SWMA on way to A8

A8 - Receiving SWMA.

1-17-50

8-4

Binford ① Started third coating removal using $Hg(NO_3)_2$. This coating removal is taking place in the slug chute so that it can be near the slugs which are located therein. There are about 40-45 slugs in the chute. All efforts to dislodge them mechanically failed. The run status is as follows

A1 - some undissolved slugs and the residue from the third coating removal.

A11 - IMB not diluted not sampled Hold!

A8 - ~~1~~ 8WMA - sampled and waiting Hold!

A9 - 3 IMA extraction Hold!

A5 7" of leakage from fls on third level

A6 MT

② Continued evaporating at tank farm.

③ The valve on the HB line at the xmas tree is not operable at present.

1/17/50 ① Used steel tapes, $\frac{3}{8}$ " ss pipe, pile driver, air hammer on pipe, caustic, and hammering Schick thru plug holes with very little success. Possibly knocked out 3 slugs.

② Pulled C¹⁴ slugs from dissolver at all V.

③ Finished both evaporations at 204 Bdy.

④ Checked column on 1st level & took cuts & sampled every hour on the hour.

⑤ Continued evaporating

⑥ Maintenance shut ^{down} news fan because of overheating.

⑦ Run Status: Same as last shift.

① SWMA - 226 c's S.T.

1/18/50

12-8 ① Pulled Product out of P³² extractors on
Sachs tanky Farm and submitted samples to the lab.

② Continued Evaporating.

③ Stored Scoops

④ Fed HNO₃ to slug chute all shift and used
the "snakes" twice. Slugs dropped 3 different
times, but a 7:30 a.m. probe reveals chute
still jammed. Heating HNO₃ in T1 for this job.
Had maintenance rig up a small spray
affair which we let down on top of slugs with
tygon line. Would say that about six slugs
dropped during the shift. A sp. g. of 1.42 in
A1 indicates some material was dissolved.

1/18/49

8-4

Bunford

① Continued to dribble nitric into slug ~~chute~~ chute. Slugs
dropped 4 times one of which carried several slugs.
We have gained 2-3 feet in the chute.

② Started C batch dissolving when we reached 16"
in A-1. We are still adding HNO₃ through the
chute cover.

Rem stated — See H.B. for latest word.

A9 - Batch A

A8 - SWMA

A11 - IMB

A-5 - 14" leakage

A-6 MT

A-1 Batch C dissolving

③ Continued evaporating at T.F.

1/18/50 ① Fast of the slugs broke thru at 7:45 PM while
4-12 rinsing line with H₂O. Both 75% HNO₃ washes
which loosened & dropped 2 or 3 slugs.

② Palled C¹⁴ slugs at Cell IV.

③ Continued taken out on Presley's vacuum every
hour on the half hour.

④ Continued evaporating on T.F.

⑤ A high air vent was encountered in "C" Bldg
when pot was jettied during evaporation
of A1 dissolving to 16". 12-8 better check when
they start boiling down.

⑥ Flashed off B³ level and stored all tools
that were not hot. The rest are sparging
in decontamination room in soap solution.

⑦ Made up one batch of 440# of 35% caustic in T9.

⑧ Run Status: A1 - Batch C dissolving, sampled &
debated. Settling till 2:30 AM

A9 - Batch A

A8 - 8 WMA

A11 - 1 MB not debated

A5 + A6 - MT

⑨ Sp 6 + L.L. dropped to "0" when bubbles were turned
down on A1.

⑩ Lab reports 29 slugs in 1 MC. 12-8 shift will get other

- 1/19/80
- ① Analysis - 1 MC, 3240 S.T., 29.1 slugs, 113.2 c₃/slug.
 - 12-8 ② Used two caustic and one water wash in
Sachs cleaning up A1 before bringing down Batch B From A11.
 - ③ Took hourly cuts on Pressley's column.
 - ④ The stuff in decontamination room barrel is still hot.
 - ⑤ Continued Evaporating.
 - ⑥ Run Status:
 - A1 - Batch B dissolving
 - A5 - M.T.
 - A6 - M.T.
 - A8 - M.T.
 - A11 - 8WMA settling until 10:10 A.M.
 - A9 - Batch C settling cold until 12:20 p.m.
 - ⑦ Scrubbed up hot spots on 3rd level. They have not been remeasured.

- 1/19/80
- ① Cleaned up hot spots on 1st and third levels. Still some hot.
 - 8-4 ② Samples 6WMA — 9.2 curies AT 8 curies ST
8WMC — 94 curies AT 96 curies ST
 - ③ Continued evaporating at tank farm
 - ④ Run status
 - A1 - Batch B dissolving til 5:45 PM
 - A9 - Batches C & A waiting of B
 - A8 - MT
 - A11 - 8WMC settling til 6:30 PM
 - A5 - MT
 - A6 - Neutralized 6WMA ready to go to TF
 - ~ MT

- ⑤ 205 bld. wants the values of TF set for W4 - please do so at 4:00 PM and then call them.

- 1/19/50 ① Received 350 gals metal waste into W4 ^{from 205 Bldg.} 70 SF per 4-12
- ② Cleaned hot spot on 3rd level. Both 2nd & 3rd Schick level okay. Hot spots on 1st are marked.
- ③ Removed 1" slugs from dissolver at cell V.
- ④ Finished column work at 204 Bldg. Still washing resin - 12-8 continue.
- ⑤ Neutralized 6WMC and sent to W9.
- ⑥ Dropped two 8" (W) slugs thru chute and they sounded okay. Started coating removal in A1.
- ⑦ 14B analysis - 7342 c's S.T. - 14 slugs - 70.1 c's/slug
- ⑧ 6WMC " - 76 c's S.T.
- ⑨ 12-8 take a coating removal sample before starting washes.
- ⑩ Checked equipment in dec. room and put new solution in barrel. Still better than 100mm/hr.
- ⑪ NH₃ cylinder is just about gone.
- ⑫ Continued evaporating. Special C.T. - 114 c's/min.
- ⑬ Run Status: A1 - Special coating removal
A9 - Batch B4 tractor settling hot
A8, A5, A6, A11 - MT till 12^{noon}.

1/20/50

- 12-8 ① Maintenance replaced NH₃ cylinder.
- Sachs ② Continued Evaporating on Tank Furn.
- ③ Stuff in decou. barrel still hot.
- ④ Cleaned and scrubbed area from decou. room to E. door, but didn't do too much good.

⑤ Watched the resin washing at 204 Bldg.

⑥ Run Status:

A1 - M.T

A5 - 2" of A8 rinse

A6 - M.T

A11 - 8WMB heels + 8WMB settling until 11:25 a.m.

A8 - First one-fourth of 8WW.

A9 - 2nd Extraction wash settling until 8:10 A.M.

⑦ As far as smeans go, the Bldg is in wonderful shape. H.P. made 60 smeans of locker room and hall, 75 smeans on lot level, and 80 smeans of 2nd and 3rd level. Of these, only two were hot and both of these read about 250 counts.

1/20/50 ① Maintenance replaced valves from M1 to A5, M10, and
8-4 M11

Benford ② Continued evaporating at Tank Farm

③ Run Status

A1 - MT

A9 - 1st metathesis settling til 5:30 PM

A11 - 8WW Batch B heel

A8 - Nitric to receive 1st met (also water)

A5 - MT

A6 - neutralized 6WMB

④ Ave atque vale!

1/20/50 ① Maintenance oiled cell fan.

4-12 ② Pulled 6" slugs from dissolver at Cell V

Schaich ③ Finished melting out sulfur can at Cell V and delivered to Pile Bldg.

- ④ Evaporator now running at 300 gal/hr with a C.T. running at 84°C/min at 8 PM.
- ⑤ Ran snake down to bottom of A1 tank without encountering any slugs.
- ⑥ Made housekeeping inspection of 706-D, 706-DA, & evaporator and took care of all items.
- ⑦ Washed 3 pots & 3 drums and had H.P. smear. 12-8 check and see if they are okay.
- ⑧ Maintenance unplugged 3rd level floor drains.
- ⑨ Run Status: A1, A5 - MT
 A8 - 1st & 2nd part of 8WC
 A9 - 3rd metathesis - adding H₂O
 A6 - Neut. Waste
 A11 - 8WWS + Batch B Heels

1-21-50

12-8 1. Cleaned Hot Spot ON Pot #9, All Pots and N & D. Drums are ready to go.

2. 8WC Analysis 931 A.T.

3. Continued Evaporating at 300 Gal/Hr. At Tank Farm.

4. Run Status. A-1 MT

A-5 MT

A-6 Neutralized Waste.

A-8 1/2 OF 8WCW

A-9 Last Water Wash settling

Til 9:20 AM.

A-11 Batch B. Heels + 8WWS.

1-21-50 8-4 H.B.

1. Decanted A9 at 9:20 A.M. Dissolved up and sent to Column.
2. Took A9 rinse sample.
3. Continued evaporator on tank form.

1-21-50 4-12

Took C.T. and read 400 c. at 800 pm
continued evaporator at tank form

12-8

- N.F.
- 1-CONTINUED EVAPORATING ON TANK FORM.
 2. " ASSISTING HIGGINS ON COLUMN WORK
 - 3 A-9 IS CLEAN AND READY FOR SW. WASTE FROM COLUMN.
 4. MAINTENANCE SHUT DOWN EAST EXHAUST FAN IN ISOTOPE AREA, BEARING RUNNING HOT.

1-22-50 8-4 H.B.

1. Received Strontium from Column and transferred to B1 via A9-A13-B12-B7 to B1.
2. Product from column is now back in A9. Resampled product in A9.
3. Continued evaporator.

1-22-50 4-12

Decanted A-11 to A6 and sampled A6
filled A-8 to A-11 and Bailing a:11
down to 60 gals which will be 20"

1-23-50

12-8

- ① Completed boiling down in A-11; transferred to A-9 & began extraction. Had to discontinue boiling to drain A-16.
- ② Settling pot in A-9 until 8:03 AM
- ③ ~~Had~~ No K_2CO_3 available at chem. stores for 10 l. of 45% soln.
- ④ H.P. smeared floor near Presley's column. O.K.
- ⑤ Cleaned sample carriers & moved acid cases to area near Presley's column.

- 1/23/50
- ① Loaded out Chicago truck with 5 pots + 3 drums. 8-4 AEC driver wrecked four aluminum braces on trailer Schaidt that is still at 903 Bldg. Also knocked thermostat control box for Bldg 903 off the wall. Braces were sticking out when he pulled truck out of Bldg.
 - ② Continued evaporating. Cut back on steam pressure when CT got too high.
 - ③ K_2CO_3 made up but lab result of 22.7% is wrong. Has a Sp G of 1.47 which is 45% new sample in lab at shift change.
 - ④ Check A4-205 off gas lines and loss of vacuum seems to be between Xmas tree and cell tanks.
 - ⑤ High air count noted at shift change.
 - ⑥ Cleaned out decontamination room.
 - ⑦ Run Status: A9 - 1st H_2O wash
A11 - SWM & Skimming settling 7:15 PM.

1/23/50 ① Ray Newton called in sick.

4-12 ② Checked Pressley's column behind Cell A
Sachs and took cuts. Passed on word to 12-8.

③ Took hourly readings on I^{131} dissolving in
"C" Blkg.

④ Continued Evaporating on tank farm.

⑤ Column Recovery Run Status:

A9 - 1st Metathesis settling until 1:30 A.M.

A1 - H_2O - hold

A6 - Unneutralized waste.

A5 - Carbophosphate.

A11 - 8WW + 8WM heels.

A8 - HNO_3 solution to receive 8WC

1-24-50 ① Checked Pressley's column behind cell A

12-8 ② Took hourly readings on I^{131} dissolving

OLSON ③ Continued evaporating on tank farm

④ Run status

A1 - H_2O hold

A6 - Unneutralized waste

A5 - carbophosphate

A11 - 8WW + 8WM heels

A8 - decant from 1st & 2nd meth.

A9 - 3rd meth metathesis; adding water until 8:17 am

⑤ Transferred soln. from E1 + E2 (Boyle Boyle); added acid.
+ re-extracted; E1 autoclave gasket has a small pres. leak.

1/24/50 ① Sent 2 scopes to optics shop.

8-4 ② Washed & drained stack.

Schaid ③ Sent hot snakes & tools to burial ground

- ① Drogged Run 248 & started 249 at 30 psi.
- ② Neutralized 6WV Recovery & sent to W9.
- ③ Everything in all A back in A9 spent for 8WV which was decanted to A6 from A11.
- ④ Moved most of shift into new area.
- ⑤ Made up 45% K_2CO_3 but it has not been sampled.

②

- 1/24/50 ① Sampled K_2CO_3 - 45.0%
- 4-12 ② Started up extraction of two tubes of Selfen Sacks at Bagley-Bagley. Let them cook all night.
- ③ Completed work on 204 Bldg P^{32} Evaporation.
 - ④ A 7 p.m. C.T. sample was down to n.40 counts.
 - ⑤ Electrician repaired light in Evaporator.
 - ⑥ Moved Blower to 901 Bldg.
 - ⑦ The stuff in A6 (the 8WV that was jettied to A6 from A11 on day shift) has been sampled under the label of 6WV#3.
 - ⑧ Instrument man working on Evp. L.L. indicator at shift change.
 - ⑨ Recovery Run Status:
A9 - Extraction settling cold until 2 AM
 - ⑩ Passed on word to 12-8 about Pressley's two columns. The one on 1st level has quit running. Another going on 3rd level.

- 1-25-50 ① Instrument man worked on Evap. L.L. indicator
 12-8 but could not obtain correct L.L. ^{reading} on evap. *
- OLSON ② Maintenance checked hot water tank on 2nd level;
 found leak in steam coil header to tank; bucket
 placed under leak; job turned over to Kirk on 8-4.
- ③ Checked Pressley's column on 3rd level.
- ④ Recovery Run Status:
 A-9 - extraction; 3rd W.W. settling until 7:59 am.
 A-8 - *8 WW's
 A-11 - 8 WM settling until 8:05 AM
- (* jitted evaporator & refilled with known volume of feed;
 found the evap. h.h. off by 18" (low) (scraped h.h. lines
 to evap. but found no leak outside of cell)

1/25/50 ① put 8WWS into A11 with 8WM Recovery #2.
 8-4 let this settle until 4 PM or later.

Schaich ② Bellows on EV h.h. is shot. EV Run No 249
 was started again and samples that were
 brought in last night ^{are being used.} ~~have been discarded.~~
 Continue run as if nothing had happened. See
 EV log book for latest developments.

- ③ Shift took in safety picture.
- ④ Run Status: A9 - 2nd Metathesis ^{H₂O going in.} ~~settling~~
 A8 - 1st part 8WC
 A11 - 8WM B + 8WW ^{settling until 4 PM.} ~~settling until 4 PM.~~

- ⑤ Continued checking A4 off gasoline.
- ⑥ AE-1535 will be at garage over night. We
 are using AE-1559.

170

1/25/50 ① Finished Iodine evaporation in C Bldg.
4-12 ② Cleaned up head brick on E. Plat. and stored
Sachs on E. side of 706D.

③ Recovery Run Status:

A9 - 3rd Metathesis settling until 1:20 A.M.

A6 - Waste

A8 - two-thirds of 8WC

A11 - Waste heels

A6 - Waste, unneutralized *

A5 - Carbophosphate

④ Continued Evaporation on Tank Farm. Raised
Pointer to 43" to give true 35" L.H. in Evap.

⑤ A 7 p.m. C.T. sample was 173 counts.

⑥ Continued Pressley's column on 1st level.

~~2~~ Cut and sample every 2 hours. Next
one due at 2 a.m.

⑦ Maintenance men burned hole into Rater
Purification cubicle.

(* GWM Special Recovery #2 - 67.6 c's.)

1-26-50 ① Continued evaporation on Tank farm. ; 3am C.T.

12-8 sample was: 8,111 c/m/ml. ; 6:30am sample (C.T.) 200 c/ml/ml

OLSON ② Continued Pressley's column on 1st level.

③ Recovery Run Status

A6 - waste, unneutralized MT

A5 - carbophosphate + waste from A6

A11 - waste heels

A8 - 8WC + 8WCW ; 8WC 182 c's ; 8WCW in the lab.

A9 - metathesis cake ; ~~holding~~ for column

④ Shift attended safety movie.

1/26/50 ① GUCW analysis - 395 c/s S.T.

8-4 ② Electricians repaired agitator motor on T2.

Schaich ③ Used all shift exposure ^{including Blauer's + Russell's} trying to get a sample from A9 product. Sample is still plugged and a sample is on tube with air on.

④ Column boys now have the product. A9 has 2 liters of .5M NaOH.

⑤ Drying run at EV at shift change.

⑥ Everything is set up to steam A9 blister. The pipe gadget for the hose is repairing in dec. room.

1/26/50

4-12 ① Shift safety film showing was postponed Sachs until tomorrow night.

② Cleaned Pots and sugarman in new decontamination Bldg. There were two hot smeans. They are marked on pots in purple ~~at~~ challe. Sugarman is O.K. to go. Blauer says these things are supposed to need less than 1 m/hr. Xylene readings passed on to shifts.

③ Unplugged A9 sampler with steam and cleaned up around blister. Sampler still circulating to bring down activity. We were too late to get the A9 prize sample, but we took one anyway with the cubicle waste in it. The column boys knew what their waste contained so by subtracting the two we can get our A9 prize results.

④ Continued Evaporating.

⑤ Operated Pressley's column. Had a spill.

and the place is hotter than hell.

⑥ unplugged anti-foam pump at Evaporator.

- 1-27-50 ① Worked on cleaning 5 pots in the new
OLSON decontamination building; got less than
12-8 50 c/m on all smears, but have readings over
1 mr/hr due to very high contamination inside
the pots. One of them read about 57 c/m about 3 feet
from the top with the plug removed. *
- ② Tried cleaning the wall near Pressley's column
with citric acid swabs. It is still hot. Placed
lead sheets against wall. Reading about 25 mr/hr
and 75 mr/hr spot on floor.
- ③ Ran evaporator: 11 pm (1-26-50) C.T. sample 65 c/m/ml.
5:30 am C.T. sample 150 c/m/ml.
- ④ Ran Pressley's column.
- ⑤ A9 - Ready to receive product; A9 rinse sample 93.7 c/s.
* max. reading with plugs in, around top, 15 mr/hr.

- 1/27/50 ① Cleaned up sample carriers
8-4 ② Cleaned up decontamination room first level
Blauer ③ Sent 5 slug pots + sugarmen to K-25 to
be loaded on Railroad car only to hear that the bottoms
were hot.
- ④ Received Chicago truck + emptied it.
⑤ Finished check of A4-205 off gas line.
⑥ Worked on valve in X mas tree pit at evap.
⑦ One foam over at evap.
⑧ Shut down steam fan.